EXISTING MUTUAL AID AND COMMAND SITUATION IN MICHIGAN

National Fire Coordination Study

U.S. DEPARTMENT OF AGRICULTURE/FOREST SERVICE/DIVISION OF FIRE CONTROL

EXISTING MUTUAL AID AND COMMAND SITUATION IN MICHIGAN

FINAL REPORT

KEITH ROYER CONTRACT NO. 13-119

PREPARED BY

KEITH ROYER

FLOYD W. NELSON

AMES, IOWA

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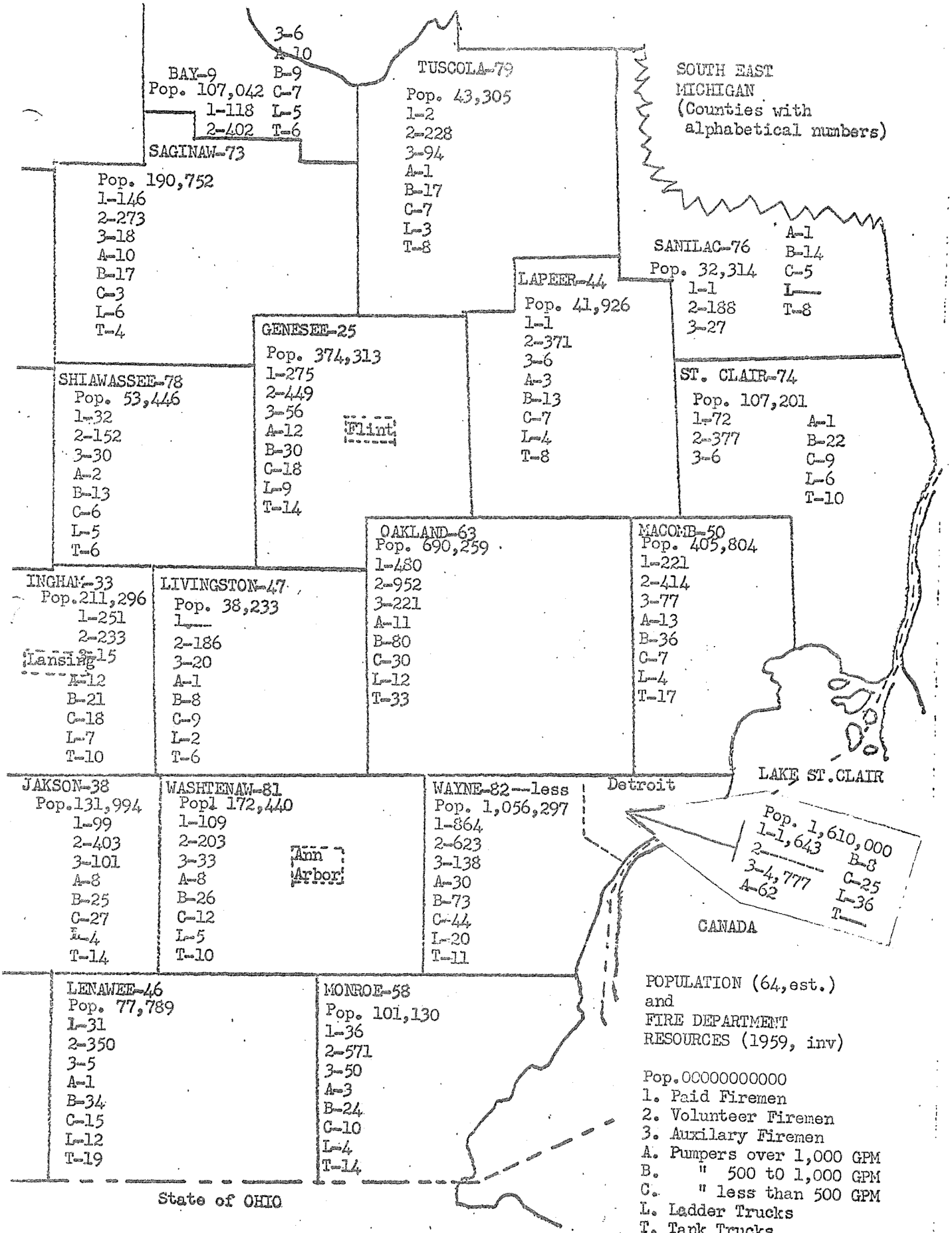
I. DESCRIPTION OF THE AREA STUDIED

The Michigan area is a general combination of industrial, mercantile and wildlands area. The southern half of Michigan is the heavily populated area. The southeast quarter of the state is heavily populated and would be classed as a heavy industrial. The automobile and allied industries are located in this southeast area of the state of Michigan. Because of the way the Detroit area has developed, there are many natural fire breaks. Unless an incident occured when ground cover was extremely dry, fires, even unattended would be limited in their spread.

*The 1964 report "Synoptic Weather Types Associated With Critical Fire Weather" lists only 3 days in the Detroit area and 4 days in the Grand Rapids area per year as critical, on the dangerous burning index.

Fuel types in the area are in several categories: masonry wood joisted construction, frame construction, (primarily dwellings), masonry and steel, and the normal ground cover which is found in an urbanized area. The agricultural sections of the southeast corner consist of general farm land along with timber generally in the broad leaf hard and soft wood class.
*See Major Forest Types Michigan, 1955.

The population in the Detroit metropolitan area which might include the total southeast corner of Michigan is approximately 5.5 million.

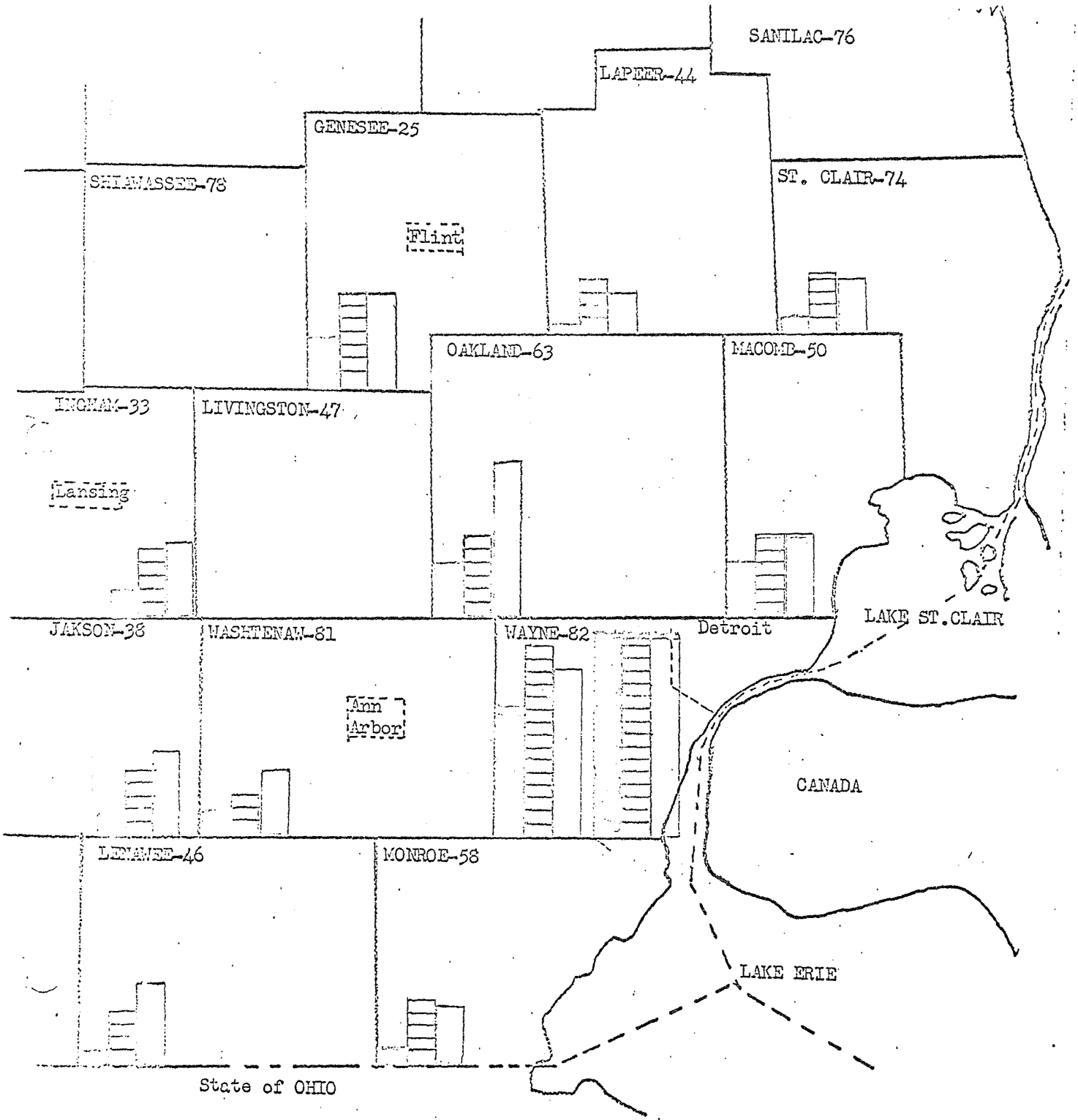

3-6
A-10
BAY-9
Pop. 107,042
1-118
2-402
B-9
C-7
L-5
T-6
SAGINAW-73
Pop. 190,752
1-146
2-273
3-18
A-10
B-17
C-3
L-6
T-4
TUSCOLA-79
Pop. 43,305
1-2
2-228
3-94
A-1
B-17
C-7
L-3
T-8
SOUTH EAST MICHIGAN
(Counties with alphabetical numbers)
SANILAC-76
Pop. 32,314
1-1
2-188
3-27
A-1
B-14
C-5
L-
T-8
LAPEER-44
Pop. 41,926
1-1
2-371
3-6
A-3
B-13
C-7
L-4
T-8
GENESEE-25
Pop. 374,313
1-275
2-449
3-56
A-12
B-30
C-18
L-9
T-14
Flint
SHIAWASSEE-78
Pop. 53,446
1-32
2-152
3-30
A-2
B-13
C-6
L-5
T-6
ST. CLAIR-74
Pop. 107,201
1-72
2-377
3-6
A-1
B-22
C-9
L-6
T-10
OAKLAND-63
Pop. 690,259
1-480
2-952
3-221
A-11
B-80
C-30
L-12
T-33
MACOMB-50
Pop. 405,804
1-221
2-414
3-77
A-13
B-36
C-7
L-4
T-17
INGHAM-33
Pop. 211,296
1-251
2-233
3-15
A-12
B-21
C-18
L-7
T-10
Lansing
LIVINGSTON-47
Pop. 38,233
1-
2-186
3-20
A-1
B-8
C-9
L-2
T-6
JAKSON-38
Pop. 131,994
1-99
2-403
3-101
A-8
B-25
C-27
L-4
T-14
WASHTENAW-81
Popl 172,440
1-109
2-203
3-33
A-8
B-26
C-12
L-5
T-10
Ann Arbor
WAYNE-82--less
Pop. 1,056,297
1-864
2-623
3-138
A-30
B-73
C-44
L-20
T-11
Detroit
LAKE ST. CLAIR
Pop. 1,610,000
1-1,643
2-
3-4,777
A-62
B-8
C-25
L-36
T-
CANADA
LENAWEE-46
Pop. 77,789
1-31
2-350
3-5
A-1
B-34
C-15
L-12
T-19
MONROE-58
Pop. 101,130
1-36
2-571
3-50
A-3
B-24
C-10
L-4
T-14
State of OHIO
POPULATION (64,est.)
and
FIRE DEPARTMENT
RESOURCES (1959, inv)
Pop.00000000000
1. Paid Firemen
2. Volunteer Firemen
3. Auxilary Firemen
A. Pumpers over 1,000 GPM
B. " 500 to 1,000 GPM
C. " less than 500 GPM
L. Ladder Trucks
T. Tank Trucks

SOUTH EAST MICHIGAN (Counties with alphabetical nos.)

Population — 1 inch = 1,000,000 people

Firefighters paid and volunteer (Aux. not included) — 1 inch = 1000 firefighters

Firefighting vehicles pumpers, ladder, tanker trucks) — 1 inch = 125 vehicles



II. DESCRIPTION OF HOW THE ANALYST CONDUCTED THE STUDY

A. Area and people interviewed
B. System for interview records
C. Establishing understanding with those interviewed
D. Definition of terms

A. The study was started in the southeast corner of Michigan, starting primarily in Wayne County at the local level. This included interviews with fire chiefs, municipal officials, sheriffs' departments and local representatives of state police and civil defense directors. Each of the following counties were studied independently and then the composite of the Detroit metropolitan area was created from those independent county studies. The first counties studied were: Wayne, Macomb, Monroe, Oakland, St. Clair, Lenawee and Lapeer.

After the local picture was obtained, the analyst then went to county level, there interviewing civil defense directors, conservation department officers, state police, sheriffs' departments, county supervisors and industrial representatives. After the county level was studied the analyst then went to state level and there interviewed state officials such as the State Fire Marshal's Office, the State Civil Defense Director's Office, the Fire Control Officer, Michigan Conservation Department, and State Training and Education at Michigan University.

One conference was held with approximately 50 fire chiefs and others interested in the statewide picture, at Lansing, Michigan. After all data was collected with as much documentation as possible, this data was then brought together to show the tie-in of local, county, area, state and federal agencies and installations.

B. As persons were interviewed, notes were taken on indexed cards and each evening these cards were punched in order that individual cards might be easily located and a quick check made of information obtained on key points.

PUNCH CARD KEY
For interview notes
Kieth Royer report Michigan survey
U. S. Forest Service Project OCD-PS-64-229

P.1 Group

1. Operational Fire
2. Municipal Govt.
3. County "
4. State "

P.2 Catagory

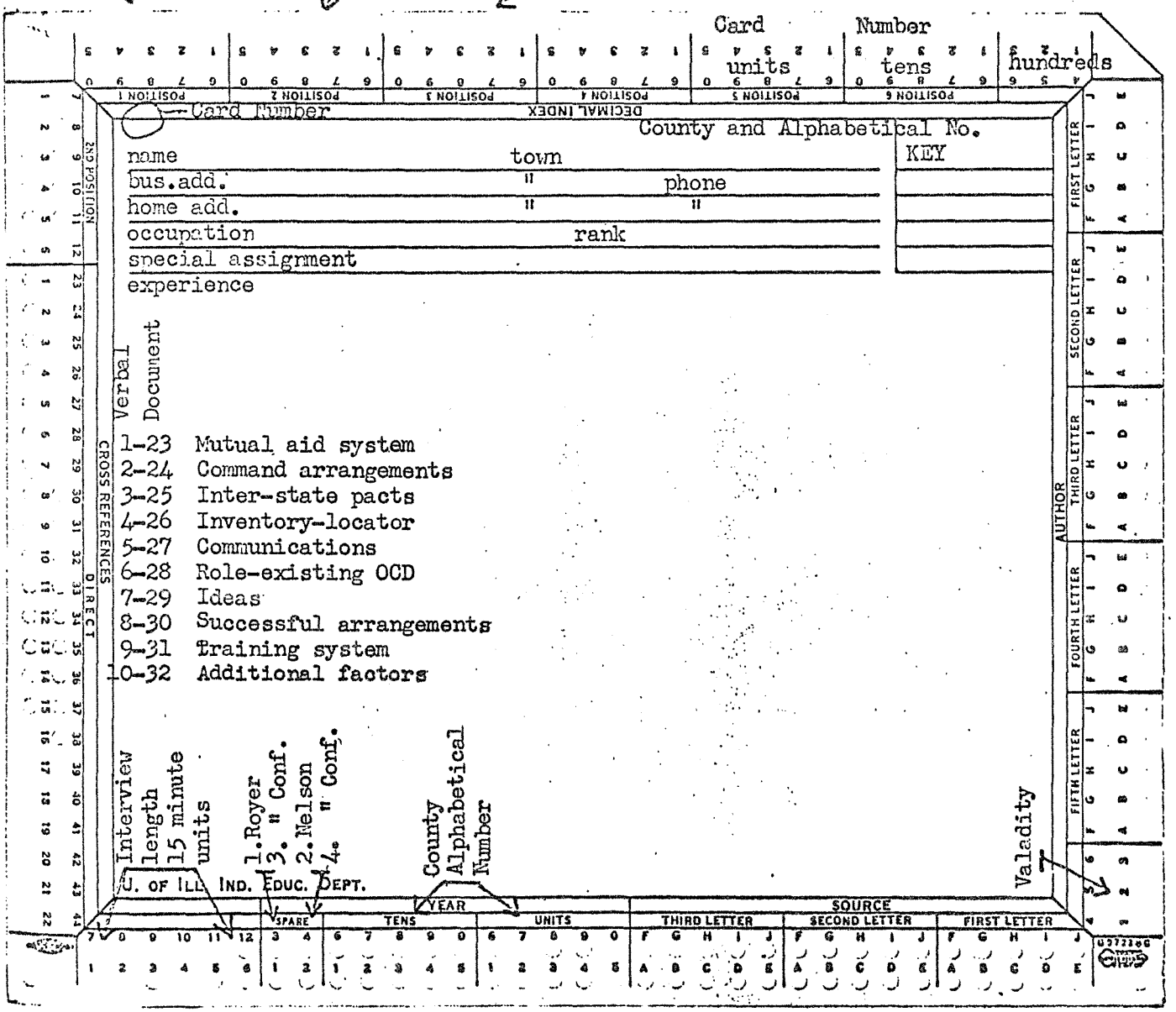
1. Paid
2. Vounteer
3. Forest
4. Industrial

1. C. D.
2. Training
3. Administration
4. Police

P.3 Level

1. Chief or Fire Boss
2. Training
3. Marshall or Administration
4. Captain or Crew Boss

1. Director or Chief
2. Assistant or Captain



MICHIGAN COUNTIES
(With Alphabetical Numbers)

1. Algona
2. Alger
3. Allegan
4. Alpena
5. Antrim
6. Arenac
7. Baraga
8. Barry
9. Bay
10. Benzie
11. Berrien
12. Branch
13. Calhoun
14. Cass
15. Charlevoix
16. Cheboygan
17. Chippewa
18. Clare
19. Clinton
20. Crawford
21. Delta
22. Dickinson
23. Eaton
24. Emmet
25. Genesee
26. Gladwin
27. Gogebic
28. Grand Traverse
29. Gratiot
30. Hillsdale
31. Houghton
32. Huron
33. Ingham
34. Ionia
35. Iosco
36. Iron
37. Isabella
38. Jackson
39. Kalamazoo
40. Kalakaska
41. Kent
42. Keweenaw
43. Lake
44. Lapeer
45. Leelanau
46. Lenawee
47. Livingston
48. Luce
49. Mackinac
50. Macomb
51. Manistee
52. Marquette
53. Mason
54. Mecosta
55. Menominee
56. Midland
57. Missaukee
58. Monroe
59. Montcalm
60. Montmorency
61. Muskegon
62. Newaygo
63. Oakland
64. Oceana
65. Ogemaw
66. Ontonagon
67. Osceola
68. Oscoda
69. Otsego
70. Ottawa
71. Presque Isle
72. Roscommon
73. Saginaw
74. St. Clair
75. St. Joseph
76. Sanilac
77. Schoolcraft
78. Shiawassee
79. Tuscola
80. Van Buren
81. Washtenaw
82. Wayne
83. Wexford

C. To establish understanding between the interviewer and the person being interviewed, the following exhibit was used.

FIRE DEPARTMENTS AND CIVIL DEFENSE

Types of Alarms

This system of specifications for the various alarms has no official status with any civil defense agency. It is set forth here only for the purpose of clarifying some of the points that must be considered in discussing "Fire Departments and Civil Defense".

Silent Alarms - A department may choose to run silent, on small fires such as automobiles, grass fires, etc.

1st Alarm - Usually a fire that is handled easily by the home department or in larger cities it may be handled by a single company.

2nd Alarm - A more difficult fire where the local department may call for help from another city or in larger cities companies from other districts are called in.

3rd Alarm - Mutual aid from all surrounding towns or in larger cities all districts may be called. In cases of this type there will usually be a move up where companies from towns or districts further away are moved up to stand in for departments or companies that are fighting the major fire.

4th Alarm - Large scale tornado-flood or explosion - Here many other agencies beside the fire department may be involved. Examples of this type of emergency might be the Roseberg Oregon incident or the Kansas City flood of a few years ago.

5th Alarm - Bel-Air Brentwood Fire in California.

6th Alarm -

7th Alarm -

8th Alarm - 1 megaton accident.

9th Alarm - Controlled military.

10th Alarm - All out - the horrible spasm.

D. Definitions as they relate to fire coordination study

1. Standard Command - Standard command, in fire service operations, is when the fire chief or his representative in the area or jurisdiction where an incident occurs maintains operational command of all incoming resources. The personnel on each incoming unit remain under the command of their own officers but the unit as a whole is commanded by the local fire chief.

2. Formal and Informal Mutual Aid - Mutual aid compacts range all the way from the formal, legally drawn, properly signed and recorded documents to the verbal "yes, we will come when you call", to the unspoken knowledge on the part of the chief that "they" will help when we are in serious trouble.

For this report, the use of the word, formal, means mutual aid according to a legally drawn, signed and recorded document.

It should be noted that because a mutual aid pact is formal, it is not necessarily a good working arrangement. It may be only on paper. Some informal pacts may operate successfully even in major emergencies.

III. REPORT SUMMARY

Where does the system begin? The general picture of the mutual aid and command situations in the Michigan area is that they are localized. This may be a group of adjacent cities or it may be throughout the county on a formal or informal basis. All systems seem to be arranged whereby each community is its own mutual aid center.

For example, in Wayne County there are three systems which are formal in nature. Two of these are reciprocal in nature and the third involving the city of Detroit are contractual arrangements.

In the Detroit system there are twenty separate governmental entities within or bordering the city of Detroit. Eleven of these have contractual arrangements with the city of Detroit for standby mutual aid service. A copy of the contract is attached to the supporting data with a list of the eleven communities where the formal contract exists. There are five installations outside the city of Detroit that also have agreements for emergency fire service. These are: Water Board Building, Dearborn - Boy's Republic, Farmington - Children's Hospital, Farmington - Detroit Zoo, Royal Oak - Mayberry Sanitarium, Northville.

The means of notifying the city of Detroit when their services are needed is by telephone or through the state police or county sheriff's radio net. Each of the above mentioned communities have radio communications equipment but there is no way to tie these operational communications systems together except through other radio nets such as police, conservation commsision, or sheriff's department.

This system ends at the boundaries of the above mentioned cities who have contractual arrangements with the city of Detroit. The city of Detroit may render aid to any other community in the area, however, the request for aid must come from the mayor of the requesting community and be communicated to the mayor of the city of Detroit. This then constitutes a contractual arrangement where the city of Detroit will assist in an operational way. An example of this, at the General Motors hydromatic plant fire in Lavonia, Michigan in the late 50's, the city of Detroit responded after the mayor of Lavonia had requested their aid with several pieces of fire fighting equipment fully manned.

The two other mutual aid systems in Wayne County are: 1. The down river mutual aid pocket which includes the communities of Lincoln Park, Ecorse, Melvindale Allen Park, River Rouge, Wyandotte and Trenton. These communities have a formal agreement which is reciprocal in nature and seems to work out very well among this group.

All communities are on the same radio frequency and monitor each others activities. Direct radio calls can be made from one fire department to another for assistance in this mutual aid arrangement. There is no current inventory except by memory on the part of the officer in command where an incident occurs and he makes special alarm calls for specialized equipment. They do not have a running card system or a locator system, therefore, it is up to each community to keep track of what is going on, what equipment and manpower is committed on any single incident within the area. Each of these communities in this mutual aid pact have informal agreements with other neighboring communities, however, the requests from those communities outside the pact area must be made by telephone or through the state police or sheriffs' departments radio nets.

The third system in Wayne County is known as the Western Wayne Reciprocal Fire Aid Agreement. This is formalized in nature and there are 15 communities and township fire departments that are members of this mutual aid pact. All departments operate on the same radio frequency and monitor each other's calls as to what equipment and manpower and communities are committed on any single incident. Many of these units within this pact arrangement also have informal arrangements with their neighboring communities and the community requesting aid must request this aid by telephone or through the state police, sheriff's department or conservation department radio net.

OAKLAND COUNTY

There is one formal mutual aid pocket in Oakland County that includes the five communities of Ferndale, Hazle Park, Royal Oak, Birmingham and Pontiac.

The northeast portion of Oakland County has a semi-formal arrangement and the western part of Oakland County has mutual aid on an informal basis. Each of these systems also have informal arrangements with their immediate neighboring communities. Each of the three systems have separate radio frequencies and the means of calling for mutual aid outside of each of these pact areas is done by telephone or through the state police radio net or sheriff's department net.

MONROE COUNTY

Monroe County has a formal arrangement which includes all communities and townships in the county. All operate on the same radio frequency with a central dispatching and alerting center in the sheriff's department in the city of Monroe. There is a backup communications center in Frenchtown Township. This system has a current inventory and has a large scale emergency plan which is known as Signal 13. Three departments from South Wayne County are members of this system. The towns bordering the county have informal arrangements with other systems. Calls inter-system for mutual aid must be made on telephone or through the police radio net or sheriff's department net.

MACOMB COUNTY

Macomb County is a formal, county wide, system all operating on the same radio frequency. They have good running card establishment. Macomb County will be the county that will be explained in detail.

There are other small formal mutual aid pockets in the state and, for all practical purposes, in other counties which have been studied, all have an informal mutual aid arrangement. Most of the informal arrangements operate within given counties. They operate on a county wide radio frequency.

The locator system is poor in most of these informal arrangements. It is up to each individual fire department to keep track of what is committed on an incident. Some of these do have a central communications center located in the sheriff's department of the county.

Where do the systems end? Generally, the systems end in the formal arrangements at the extremeties of the formal pact area. The informal systems seem to end at the county lines, however, all towns bordering county lines will have informal arrangements with communities in adjacent counties. The communications problem for requesting aid goes through the state police radio net, the sheriff's department radio net or by telephone.

It should also be noted that there are informal international mutual aid arrangements such as the one between Port Huron and Marysville in St. Clair County with the city of Sarnia in Essex County, Ontario Province. The same informal arrangement exists between the city of Marine City and Sombra in Canada. It might be noted that the response between Marine City and Sombra is made by ferry boat across the St. Clair River.

Most of the southeast Michigan area is covered by either formal or informal mutual aid arrangements. The probably one exception to this is the city of Hyland Park which has its own paid fire department and is surrounded by the city of Detroit.

The conservation department in the Detroit metropolitan area is limited in its operational capability on structural fires because of manpower and equipment in the vicinity of the Detroit metropolitan area. On the outer fringes, the conservation department has informal arrangements with many communities and will assist any community on an on-call basis whether this be in urban areas or wildland areas.

The same general informal arrangement exists between the towns, townships and villages relative to mutual aid on wildland fires which are the responsibility of the conservation department.

What are the gaps? The major gaps in the mutual aid systems at local and county level, appear to be the inability of one system to be able to communicate directly with other systems except through the police radio net or sheriff's department net. Inventory systems and locator systems are practically non-existent and weak where some system does exist. Operational techniques and equipment are compatable from one system to another. No specific command structure or staff organization is present to utilize incoming resources.

2. What kind of pre-emergency planning exists?

Very little pre-emergency planning is done. The best examples of what is done is in the Macomb County system and in the Signal 13 of Monroe County.

Macomb and Genesse counties seems to be the only mutual aid systems where there are simulated exercises and training to test out pre-emergency plans. Reasons for the lack of this planning, in the analyst judgement, was the lack of positive leadership on the part of the member fire chiefs within the system.

3. How does the system work during actual emergencies?

The Macomb County system on pre-emergency planning works out reasonably well and will be described in more detail in the Macomb County section. In other pre-emergency planning where it exists and in the areas where it does not exist there would be and is considerable confusion during an actual large scale day to day emergency.

4. How will it work during a mass emergency?

Mass confusion would exist because of no means of coordinating the activities of large numbers of mutual aid operational equipment. Examples of this confusion were sited in the Lavonia fire, the Chesterfield Township tornado, the large St. Clair shores grass fire and the Flint tornado. No one seems to know who is supposed to be in charge.

5. Who is involved?

Primarily the mutual aid systems and command arrangements have been initiated by fire chiefs. There has been no apparent help from the outside. The Southeast Michigan Association of Fire Chiefs has, however, encouraged formal mutual aid. They have provided the impetus for much of the work that has been done.

Who is not involved?

Municipal officials in many instances only get involved on the recommendations of their local fire chief. The local civil defense directors and county civil defense directors in most cases are not involved, nor the county supervisors at county level.

Who could be involved?

The State Fire Marshal's Office, through their deputies, could be involved in bringing about better coordination. The city officials and county officials could be involved in bringing about better coordination. The county civil defense director could be involved in bringing about better coordination in these mutual aid arrangements and in the areas where only informal mutual aid exists. The state training and educational institutions could do much in this field to provide guidelines to bring about better coordination. Large industrial corporations in the area could be involved.

6. How much does it cost?

The costs of providing mutual aid from the city of Detroit is covered in the sample contract. Generally, the annual cost is 3 mills against the assessed valuation in the community to be protected. There are further costs on an hourly basis which are covered in detail in the sample contract.

Each city and unit studied, without mutual aid would have to double the manpower and equipment to provide the same degree of fire protection as they obtain with the mutual aid arrangement. This is true regardless of whether the agreements are formal or informal.

Average annual costs of answering mutual aid alarms will be approximately $1,500 to $2,500 per year for each community. (See card No. 68)

7. What are the critical control points?

Critical control points are the central dispatch - locator arrangements and the operational command posts. These have seemed to be adequate for such incidents as have occurred in the individual mutual aid areas. However, it is quite likely that they would be inadaquate for a large scale emergency involving two or more mutual aid systems.

In a declared emergency the State Police System is to perform these functions. No one knows how this would work because it has not been tried.

8. What are the systems strong points?

The strongest point that can be established in the systems which are in existence in the Detroit metropolitan area and all of Michigan is the fact that each fire department recognizes the need for making some type of an arrangement for mutual aid assistance.

Weak points in the systems are the lack of central communications, the lack of current inventories, the lack of inventory locator systems, the lack of command experience, the lack of pre-emergency planning and the lack of large emergency fire plans for utilization of the resources within the system.

9. What kind of emergencies can the system cope with?

These systems can cope with multiple alarms in the residential type or small mercantile type. The system can cope with one single large industrial or single large building fire. The system begins to break down rather quickly if the number of fires in a given jurisdiction go much beyond three or four. The system outside Detroit would break down if there were three or four large fire incidents going at the same time.

10. HOW IS THE SYSTEM IMPLEMENTED?

(1) Normal operations

The system is implemented when the chief officer on the scene calls his dispatcher for help. In the individual mutual aid pockets this can be quite orderly as long as no one panics. In other cases a request may go out, "send all you can", in which case everybody sends too much of the wrong things.

The local chief officer remains in charge unless he feels incapable and turns command over to someone else. In extreme cases the local chief may "hide" in which case incoming mutual aid companies simply locate something to do and go to work.

(2) Declared Emergencies

Upon application of a mayor, a county sheriff, a state police commissioner, or upon his own volition, the Governor may proclaim a state of emergency and designate the area involved. In this case, command passes from the Governor to the Commander of State Fire Services to area fire service commander to the operational fire chief on the scene. The Governor through the state police has the power if they deem it necessary to replace the chief in charge of operations at the scene of the emergency.

The State Police Division have a 1959 inventory of fire fighting resources and dispatching would be from the nearest state police post.

Communications

For all practical purposes, a large portion of the fire equipment is radio equipped. Generally there is no central dispatch and no system to determine who or what is committed to any incident.

The current resource inventories are quite limited. The last inventory from a state level was taken in 1959. The individual mutual aid pockets, many times, do not have current inventories. A few do have current inventories.

Dispatching

Dispatching, in most cases, is handled locally within the Detroit metropolitan area. When you get into the outer fringes of this area, where volunteer departments are prevelent, dispatching and alerting fire departments with tone control devices many times are handled through the county sheriff's office.

Training

Very little training is done with the exception of Macomb County, Genesee County and the city of Detroit on large scale operations. In most cases, there is no training in this regard.

11. What is the CD role?

The role of the office of civil defense will vary from one county to another. Generally speaking, there seems to be a very good feeling between the fire services and civil defense. From the civil defense level, there is a relative good feeling towards the fire services, however, very little coordination is achieved through the local or county civil defense offices. For all practical purposes, it would be classed as very ineffective. The reasons for this, many times, will be lack of funds, lack of qualified personnel in the county office of civil defense, local offices, and the lack of interest on the part of both the CD officials and the fire services in determining where the fire services will fit into and what their responsibilities are in the civil defense planning and operations.

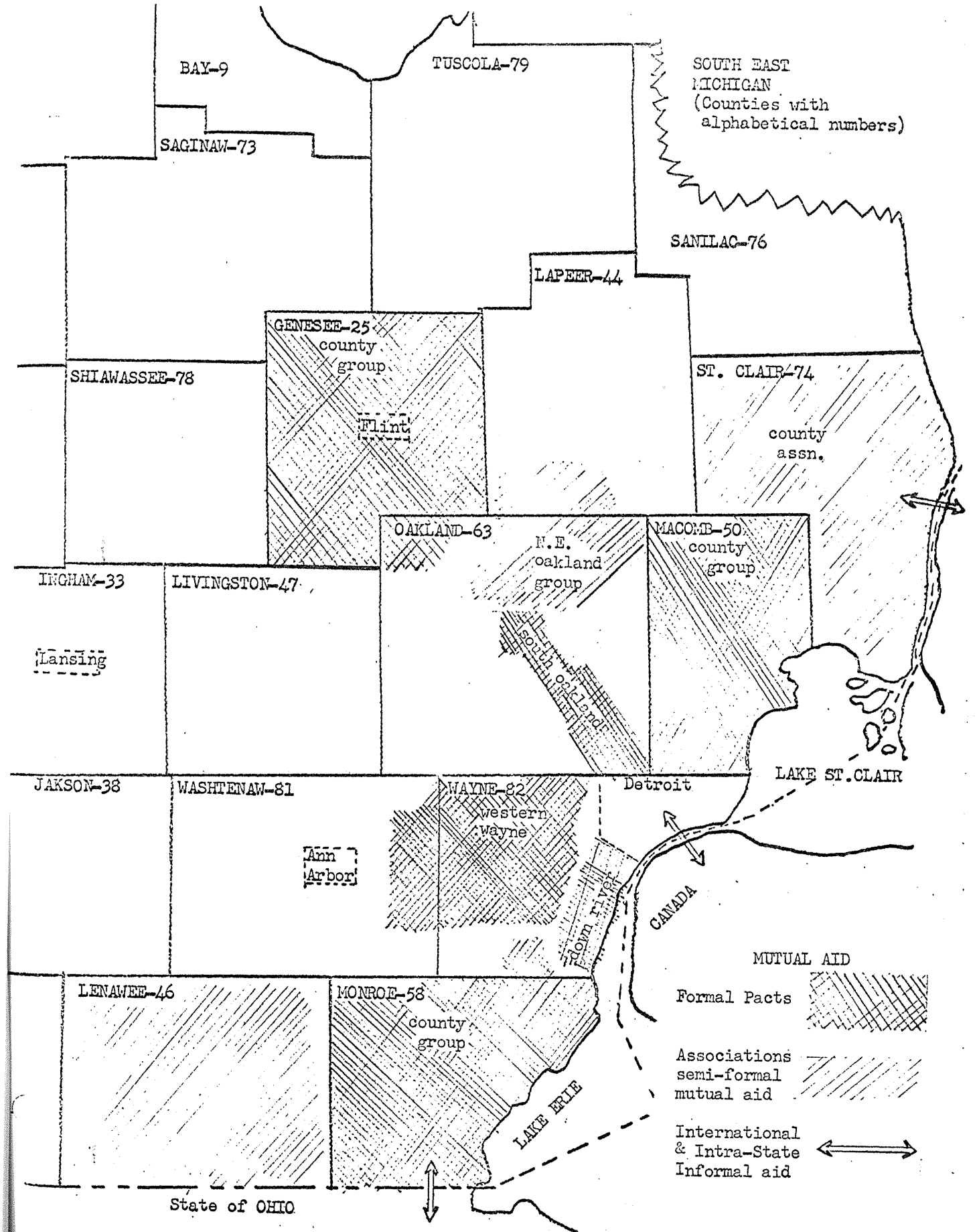
12. What are the factors that prevent full success of the program?

A. To be fully successful the mutual aid systems in Michigan should have additional intersystem, planning, command capability and communications. The largest gap is the one that exists between the type of emergency a given mutual aid system can handle and one large enough to be a "declared emergency".

B. There seems to be a feeling of complacency on the part of the fire chiefs and responsible officials with regard to additional mutual aid planning. In one case, a county civil defense director said, "We don't worry about fire defense plans, we let the fire service do that".

C. If it is to work in a declared emergency, the state police plan must be known to all concerned at the operational level and should be tested at the operational level on some day to day operations or special mock drills called for this purpose.

IV SUMMARY OF 10 AREAS IN STUDY


BAY-9
TUSCOLA-79
SOUTH EAST MICHIGAN (Counties with alphabetical numbers)
SAGINAW-73
SANILAC-76
LAPEER-44
GENESEE-25 county group
Flint
SHIAWASSEE-78
ST. CLAIR-74
county assn.
OAKLAND-63
N.E. oakland group
south oakland
MACOMB-50 county group
INGHAM-33
LIVINGSTON-47
Lansing
LAKE ST.CLAIR
JAKSON-38
WASHTENAW-81
WAYNE-82 western Wayne
Detroit
Ann Arbor
down river
CANADA
LENAWEE-46
MONROE-58 county group
LAKE ERIE
State of OHIO
MUTUAL AID
Formal Pacts
Associations semi-formal mutual aid
International & Intra-State Informal aid

1. MUTUAL AID SYSTEMS

A. FINDINGS

(1) Formal mutual aid arrangements in most heavy populated area.

(2) Informal mutual aid throughout the state.

(3) Industrial fire fighting capability has informal mutual aid arrangements.

(4) Government installations only have informal arrangements.

(5) Most fire chiefs have recognized the need for at least informal mutual aid.

(6) Most municipal and volunteer fire people have not recognized the need for large scale operations planning, for incidents any larger than what has been experienced in their area.

(7) Most state level people recognize the importance of planning and plans.

(8) Most of the operational fire service does not know what planning has been done by C.D. at state level and local level.

(9) There are relatively few operational fire plans.

(10) The departments who have been faced with large scale operations are the ones who have developed the most efficient mutual aid systems.

(11) The strict legality of many fire departments normal operations is questionable and the legality of their mutual aid operations is more questionable.

(12) In some areas there is a lack of respect between the various levels of the operational fire service.

(13) Planning between the various mutual aid pockets does not exist.

(14) Some informal mutual aid organizations have long histories of successful mutual aid operations. Card No. 53 (See FVFD 1963-64 Annual Report in Oakland County data.)

(15) Michigan law 154 spells out the method of declaring a state of emergency. When the declaration is made the state is liable for costs.
Gap. The main gap in this system is the time lag in making this declaration - because of the political implications and the cost implications this time lag may be great enough to cause critical delay to the emergency service.

(16) MUTUAL AID WITH LARGE CITIES

Most large cities will not allow their fire departments to respond beyond the city limits unless they have a pre-paid contract for fire protection with an individual or another government entity. The fees for these contracts are usually based on taxable value and are kept in line with what a like taxable value would be contributing to fire protection within the city limits.

The costs of fire protection over the years has forced most large cities to be very "hard nozed" on this point in spite of much bad publicity where lives may have been lost in fires just outside the city limits. If such lines had not been drawn and adhered to, many large cities would now find themselves furnishing fire protection to an area and population equal to their own with almost all the burden on the city taxpayer.

As townships and incorporated cities surrounding large cities of necessity formed fire departments they often attempted to arrange mutual aid compacts with the large city. Here again costs forced the larger city to be "hard nozed". When surrounding cities are of sufficient size to have good well equpped fire departments, mutual aid pacts can be arranged which are beneficial to both parties. However, in some cases the self defense posture of the larger cities over the years has produced attitudes that bar formation or effective use of such pacts.

A relatively new way has been taken by some incorporated cities to reduce the costs of fire protection where they have mutual aid pacts with surrounding communities. They integrate their police and fire departments to have a one half police department and one half fire department at a considerably reduced cost. It remains to be seen how long surrounding cities will allow mutual aid pacts that are "one way streets." See Restrictive Clause, Section 8 So. Oakland Reciprocal Fire Aid Agreement.

(17) COMMON LAW BASIS OF EMERGENCY RESPONSE

To understand the feeling of complacency on the part of some fire departments toward formal mutual aid compacts or plans for large scale disasters, it is necessary to understand some of the history of the fire service.

Going back to the dawn of civilization, the formal or informal organization of groups of people to combat the menace of fire were largely volunteer. Groups of people organized to held their neighbor when he could no longer help himself. It was almost unthinkable to place any burden of responsibility was placed on the individual who caused the fire. At the same time, there developed in "common law" the doctrine of governmental immunity, "The King can do no wrong". As populations grew in certain areas and cities developed, fire protection became a quasi-governmental function. In most states yet today fire departments are permissive rather than obligatory on the part of government entities.

As permissive organizations, some fire departments feel that during emergencies they must be allowed to operate above and beyond the responsibilities of government. "We are angels of mercy". "Let no one stand in our way". "The King can do no wrong".

This type of thinking can also lead to a lack of responsibility in planning. "We cannot possibly be prepared to handle every "mess" "people" will get themselves into, but we will respond and do the best we can". This often means, bigger and redder vehicles to carry the "angels of mercy" to their destination without too much thought as to the practibility of the vehicle.

Happily, this type of thinking is not that of the majority of the fire service, but in modified form it still permeates much of the thinking with regard to mutual aid and emergency planning.

Ironically, this "King can do no wrong" type of thinking is fostered by the general public. When emergencies occur, arms are opened wide, doors are unlocked, and borders are thrown open to the "Angels of Mercy".

Lacking any "yardstick" by which to measure the job done, the public slaps the fire fighter on the back and letters of commendation are sent even for the most inept efforts. In other words, the public "fawns" over the "doctor" who did his best but the patient died.

Even the courts have in the past seemed to uphold this doctrine of immunity, except in cases of gross negligence.

(See Fire Department Liability by Charles W. Bahme, Fireman Magazine, September, 1964.)

Under this umbrella of public acceptance a department can, if it wishes, ignor any moral responsibility for advance emergency planning. They simply stand ready to respond and do "the best they can" with what they have.

In many cases, this type of thinking has led to outright suspicion of or resentment toward anyone who encourages better emergency planning. "Civil defense want to take over and tell us what to do in our day to day operations". "This is only a trick to take away some of our freedom". "Don't let the camel get his head inside the tent".

(18) RESPONSE WITHOUT PREVIOUS CONTRACT.

Michigan law was expanded to give the fire chief authority to make responses outside his jurisdiction without the mayors approval when large life loss was apparent. This would be installations such as hospitals, schools, places of public assembly, etc.

B. CONCLUSIONS

(1) Because the existing mutual aid systems have no intersystem communication, plans, or organization, they are limited pretty much operationally to only the size of incidents which they have already experienced.

(2) Mutual aid grows with the need.

(3) Most of the areas want help in determining what they should do to improve or create better mutual aid systems.

(4) Generally the Michigan fire service is well equipped and well manned.

(5) The conservation department, because of manpower and equipment, has limited operational capability except in wildland areas.

They could serve well in the management of fire resources, etc., in coordinating, but it is questionable to the analyst whether they should be in a position to actually commit structural fire resources because of their unfamiliarity with structural operational problems and equipment and personnel limitations.

C. RECOMMENDATIONS

(1) A training and Education program from state level with the following objectives:

a. Understanding of the requirements of mutual aid systems whether they be formal or informal.

b. Importance of resources inventories and plans.

c. Training to test and improve what plans are present.

(2) In consultation with operational fire chiefs; possibly develop a master mutual aid program with sound guidelines and procedures for cities, counties and areas to follow.

(3) The above should be stressed as plans for the declared emergency. (See last paragraph of Common Law Basis of Emergency Response.)

2. COMMAND ARRANGEMENTS

A. FINDINGS

(1) All command remains in local jurisdiction.

(2) Only one county is doing specific training in command post operations.

(3) Experience in staffing for command operations is limited.

(4) Provisions are present in the state plan for command at state, area and local level in declared emergency.

(5) Michigan law 154 places the command in the State Police, Fire Marshal Division.

(6) This is invoked when a declared state of emergency exists.

(7) There is a feeling that the command arrangement on state level should be in a fire agency rather than under the state police.

(8) When mutual aid responds without previous arrangement or planning, command problems arise. Usually the local officer in charge is suspicious that the incoming departments will usurp or compromise his position of command. In some recorded cases this has actually led to the chief in command hiding or running away from the incoming chiefs. This is most often a subconscious rather than a conscious reaction on the part of the local chief. Less of this occurs when all incoming departments and the local departments are of the same approximate size.

When a large city chief responds, one of two things usually happen, the local chief is very suspicious or he will want to turn his command over to the large city chief.

B. CONCLUSIONS

The mutual aid and command arrangements in a given area are usually no better than that necessary to cope with the largest fire or natural disaster that has occured in the area.

A fire or natural disaster larger than what has been previously experienced in a given area usually exposes the weakness in the mutual aid and command arrangements.

Immediately following such incidents the responsible agencies take steps to correct such exposed weaknesses but usually do not carry their thinking much beyond this point.

Lessons learned in a given area do not seem to have much impact or lead to corrections in other areas not immediately involved.

C. RECOMMENDATIONS

(1) There needs to be an education and training program with the following objectives:

a. Appreciate and understand the need for formal central command on large scale or even small scale day to day operations.

b. Teach the requirements of such command.

c. Teach the staff requirements of command and the interrelationship of the two.

(2) Review and improve command guidelines and procedures and devise a way to get these down to the local level so regardless of where the service people come from in the state they would know - where, how and why, - they fit.

(3) This review and improvement of command arrangements should be conducted at state level through consultation with operational fire chiefs to achieve maximum coordination and acceptance.

3. INTER STATE PACTS

A. FINDINGS

(1) No formal interstate pacts except under declared emergency by Governor.

(2) Informal mutual aid along the Ohio, Indiana and Wisconsin borders. (See map)

INTERNATIONAL PACTS

A-1. FINDINGS

(1) No formal arrangements with Canada.

(2) Informal mutual aid with Canadian towns of Winsor, Sombra and Sarnia. (See map)

B. CONCLUSIONS

Because of differences in state and national laws, in most cases it becomes impossible to write a formal agreement for day to day mutual aid.

With the state adoption of the uniform state civil defense law arrangements can be made for interstate agreements in time of declared emergency.

C. RECOMMENDATIONS

(1) Investigate legislative changes needed so formal mutual aid can be brought about for day to day requirement as well as for the declared emergency.

(2) Investigate international arrangements which might bring about the same as above.

4. INVENTORY LOCATOR

A. FINDINGS

(1) Monroe County outside of Detroit is the only locator system in operation at a communication center.

(2) Several mutual aid systems were talking and thinking of creating locator systems.

(3) Several mutual aid systems have and keep current inventories. But most do not.

(4) Statewide inventory of fire equipment and personnel is outdated. 1959

(5) Majority of fire departments are not aware of the above statewide inventory.

(6) Michigan Conservation Department keeps current resource inventory of their equipment.

B. CONCLUSIONS

Most fire departments at this time do not realize the need for knowing what resources are available except that of their immediate nieghbors. Their present feeling is if they keep calling other fire departments resources will be forthcoming.

The operators and dispatcher in the communications centers don't always keep track of what and where equipment is at, outside their own community.

C. RECOMMENDATIONS

(1) Develop uniform system for determining inventory.

(2) Determine what resources needs to be inventoried at various levels from local to state level.

(3) Develop a simple uniform locator system.

5. COMMUNICATIONS SYSTEMS

A. FINDINGS

(1) There are four statewide radio networks.

a. State Police

b. Sheriff's Department

c. Conservation Department

d. State Highway Department

(2) The majority of the fire departments in Michigan are radio equipped. Approximately one half of the fire departments operate on a fire frequency and the others on a local government frequency.

(3) Where there are stong mutual aid associations, either formal or informal, the fire departments involved have established their communications on a fire frequency.

(4) Overall planning for the allocation of fire radio frequencies has been poor. In most cases there are too many departments on a single frequency. Areas in which given frequencies have been allocated do not have sufficient separation (60 miles) and no provisions have been made to tie the various frequencies together. A separation of at least 60 miles between areas operating on the same frequency is desirable for two reasons. 1. It eliminates intersystem interference for normal day to day operations. 2. In major emergencies where fire vehicles might come in from fifty miles or more, such separation helps to insure that not too many fire vehicles in the emergency area will be trying to operate on the same frequency.

(5) Need For Separate Command Net

Most fire chiefs did not seem too concerned about the lack of inter-system or command frequencies for their radio systems. While admitting that their communications had "almost" been over-

loaded in previous cases, they did not seem to be able to expand their thinking beyond this point except possibly in the area of improving their radio techniques to make better use of the frequency they have.

Most fire personnel were quick to point out that the state police net, the sheriff's net, and the state conservation net were available for mutual aid calls. They did not consider that these nets might be busy and that their inter-system fire calls would have second priority.

In normal situations such as the Detroit Fire Department fighting one or two three alarm fires at the same time, a large number of radio units, perhaps 50 or more may operate on one radio frequency without overloading. Coded signals are used and individual fire companies are dispatched to perform routine jobs. When the situation is outside the normal operating conditions for a given department, coded signals are not adequate and routine jobs cannot be assigned. The need for situation explanations and counter orders jams the air ways and the number of units that can operate successfully on one frequency falls off rapidly. In these situations, the need for a command net is all important almost to the point that those in command need to "visit" concerning the situation.

B. CONCLUSIONS

If we take into account lessons, with regard to communications, learned in major disasters in California, Florida and elsewhere, we can only conclude that;

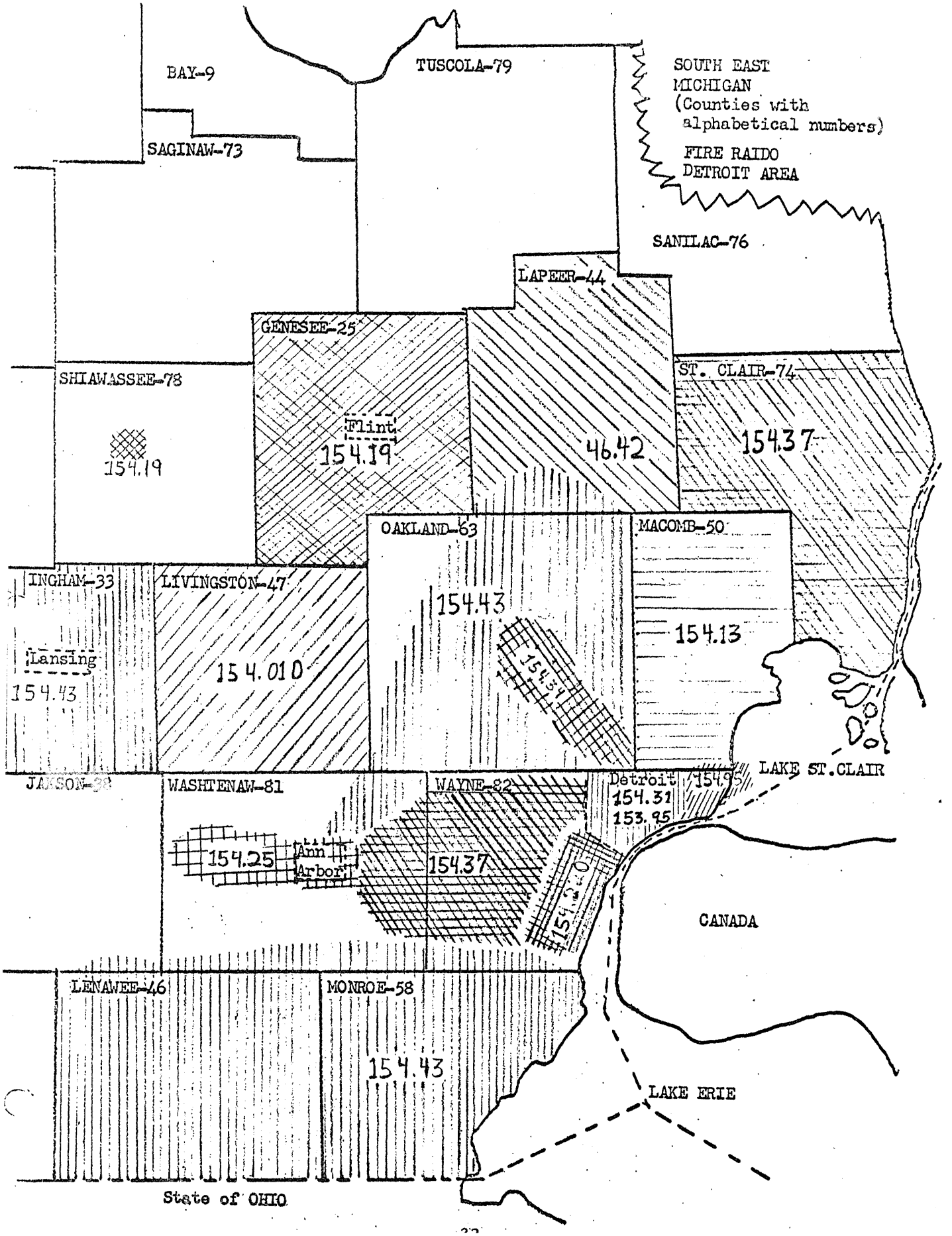
In any large scale disaster in Michigan, lack of proper organization of fire service communications would seriously handicap the fire service.

C. RECOMMENDATIONS

(1) Civil defense should instigate a study that would lead to recommendations and action to improve the fire service communications capability in the state of Michigan.

(2) There must be, at the operational level, strict separation of fire department, police department, and public works radio frequencies. The Federal Communications Commission has learned this lesson and made provisions for such separation. In day to day operations, this lesson has been learned by every major city in the country. In major emergencies, a group of smaller communities needs the same communication capability that the larger cities have found is a must for day to day activities.

Civil defense should not encourage or match funds on any communications system that integrates the police, fire and public works frequencies at the operational level. To do so is short sighted.


BAY-9
TUSCOLA-79
SOUTH EAST
MICHIGAN
(Counties with
alphabetical numbers)
FIRE RAIDO
DETROIT AREA
SAGINAW-73
SANILAC-76
LAPEER-44
GENESEE-25
SHIAWASSEE-78
154.19
Flint
154.19
46.42
ST. CLAIR-74
154.37
OAKLAND-63
MACOMB-50
154.43
154.13
INGHAM-33
LIVINGSTON-47
Lansing
154.43
154.010
154.34
LAKE ST.CLAIR
JACKSON-38
WASHTENAW-81
WAYNE-82
Detroit
154.31
153.95
154.25
Ann
Arbor
154.37
154.20
CANADA
LENAWEE-46
MONROE-58
154.43
LAKE ERIE
State of OHIO

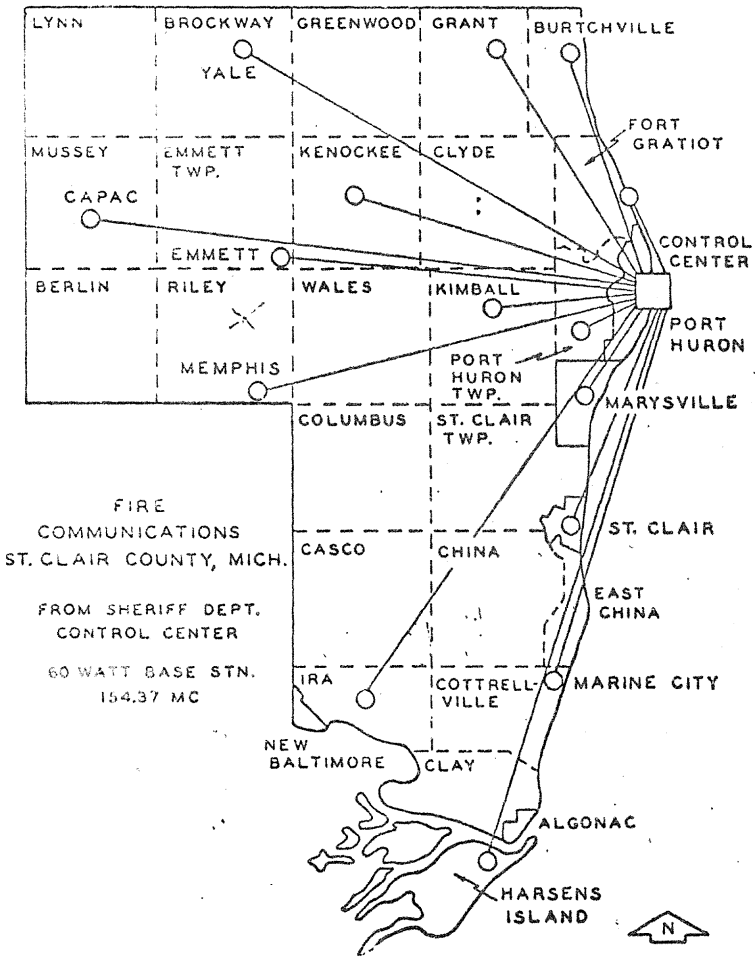
County Communications Systems

Part IV of a Series

FIREMEN for August 1964

TWO fire communications systems serving counties in the State of Michigan are worth consideration. As mentioned in the June issue of this magazine, the communications center in St. Clair County serves seventeen fire departments, each having its own base transmitting unit. The Sheriff's department in Port Huron serves as the dispatching office. There are also fifty-one mobile radio units operating in the county. All radios, on fire apparatus and in stations, are on the county fire frequency of 154.37 mc.

Sketch of fire communications system in St. Clair, Michigan. (See June issue.) The control center in Port Huron has a 60-watt base station.



Monroe County, Michigan, is approximately half way between Toledo, Ohio, and the City of Detroit. There are twenty-two county fire department units, in addition to city fire departments which operate independently of the county. The City of Monroe, largest municipality, has a population of about 23,000 and covers eight square miles. Its two fire stations are manned by thirty-six full-time firemen. The county is 640 square miles in area and has a population of 110,000. Its twenty-two fire stations are manned by 750 volunteer firemen.

A comprehensive Automatic Emergency Plan for disasters has been prepared through the cooperation of the Monroe County Firemen's Association (all fire departments in the county are members), the County Sheriff, State and City Police and the Red Cross. In addition, citizen's band and amateur radio operators are used for the disaster plan.

The fire departments take part in many rescue operations. Eighteen of the twenty-two volunteer fire departments have resuscitation equipment, and two other resuscitators are available in the Sheriff's Department. It is the policy of all police agencies in the county to summon fire equipment and rescue squads to any accident where a victim is "pinned." Fire equipment must be present with hose lines charged before any equipment is permitted to hook to the damaged vehicle or any attempt is made to remove the victim. Water rescue and recovery work is also a frequent assignment for fire department personnel.

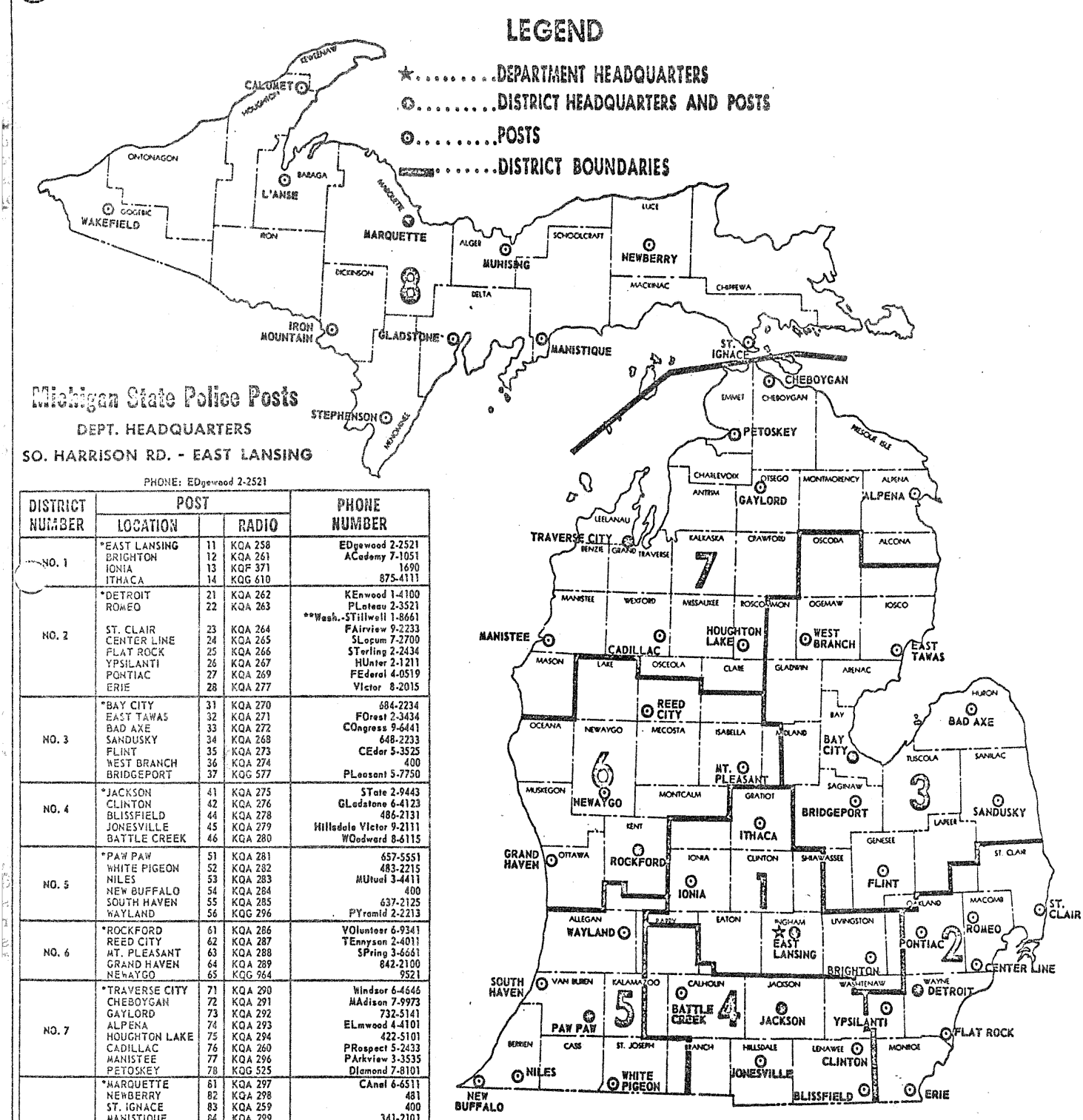
A mutual aid agreement has been worked out with bordering townships and counties, including Lucas County, Ohio. The Automatic Emergency Plan (Signal 13) is arranged so that all primary units will be at the scene and all secondary units will be alerted within one-half hour after the emergency call is received at the fire control center. An additional "fan out" system is used when severe storm warnings or tornado alerts are announced for the county.

The fire control center is operated from the Sheriff's Department of the County Building in Monroe. The fire dispatchers use a large map with red bulbs, indicating the location of each fire department. These lights are turned on whenever a fire department is dispatched, and a magnetized marker indicates whether the response is for fire or rescue. The control center is manned around the clock by deputy sheriffs.

Communications equipment includes: a Motorola "Quick Call" system for setting off alarms in the volunteer fire stations; a monitor for police calls; a citizen's band radio and two telephones for incoming fire calls. Each of the "out county" fire stations has a manual box on the outside for sound alarms. Radio communications in the city and in the county are on the same frequency. A second "back up" radio control station is in Frenchtown Township with a paid dispatcher on duty full time. This serves as a check on signals dispatched through the fire control center and can also become a main control center if the first becomes inoperable.

MICHIGAN STATE POLICE

JOSEPH A. CHILDS, COMMISSIONER



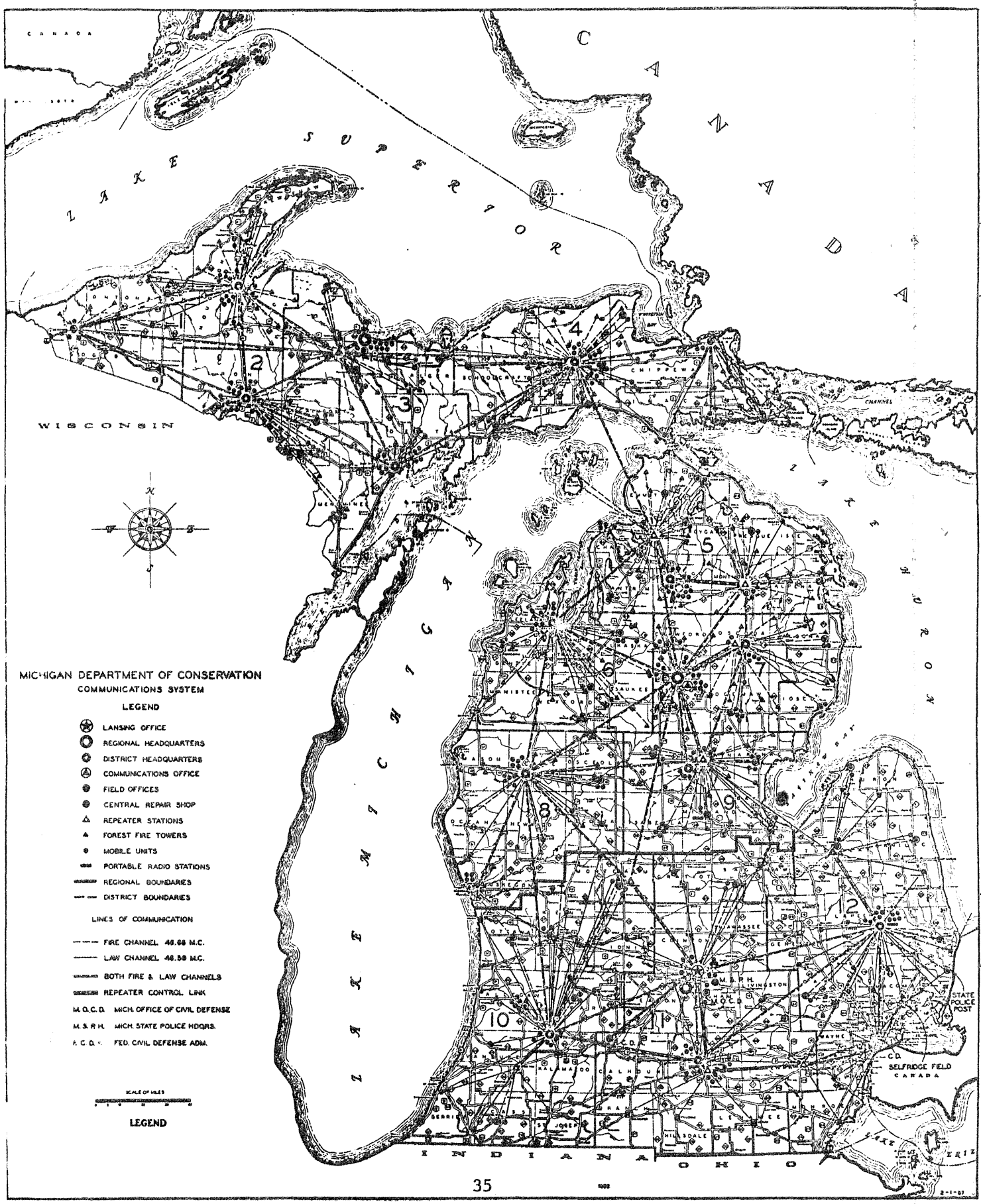
DISTRICT NUMBER	POST LOCATION		RADIO	PHONE NUMBER
NO. 1	*EAST LANSING	11	KQA 258	EDgewood 2-2521
	BRIGHTON	12	KQA 261	ACademy 7-1051
	IONIA	13	KQF 371	1690
	ITHACA	14	KQG 610	875-4111
NO. 2	*DETROIT	21	KQA 262	KEnwood 1-4100
	ROMEO	22	KQA 263	PLateau 2-3521
				**Wash.-STillwell 1-8661
	ST. CLAIR	23	KQA 264	FAirview 9-2233
	CENTER LINE	24	KQA 265	SLocum 7-2700
	FLAT ROCK	25	KQA 266	STerling 2-2434
	YPSILANTI	26	KQA 267	HUnter 2-1211
	PONTIAC	27	KQA 269	FEderal 4-0519
	ERIE	28	KQA 277	Victor 8-2015
NO. 3	*BAY CITY	31	KQA 270	684-2234
	EAST TAWAS	32	KQA 271	FOrest 2-3434
	BAD AXE	33	KQA 272	COngress 9-6441
	SANDUSKY	34	KQA 268	648-2233
	FLINT	35	KQA 273	CEdar 5-3525
	WEST BRANCH	36	KQA 274	400
	BRIDGEPORT	37	KQG 577	PLeasant 5-7750
NO. 4	*JACKSON	41	KQA 275	STate 2-9443
	CLINTON	42	KQA 276	GLadstone 6-4123
	BLISSFIELD	44	KQA 278	486-2131
	JONESVILLE	45	KQA 279	Hillsdale Victor 9-2111
	BATTLE CREEK	46	KQA 280	WOodward 8-6115
NO. 5	*PAW PAW	51	KQA 281	657-5551
	WHITE PIGEON	52	KQA 282	483-2215
	NILES	53	KQA 283	MUtual 3-4411
	NEW BUFFALO	54	KQA 284	400
	SOUTH HAVEN	55	KQA 285	637-2125
	WAYLAND	56	KQG 296	PYramid 2-2213
NO. 6	*ROCKFORD	61	KQA 286	VOlunteer 6-9341
	REED CITY	62	KQA 287	TEnnyson 2-4011
	MT. PLEASANT	63	KQA 288	SPring 3-6661
	GRAND HAVEN	64	KQA 289	842-2100
	NEWAYGO	65	KQG 964	9521
NO. 7	*TRAVERSE CITY	71	KQA 290	Windsor 6-4646
	CHEBOYGAN	72	KQA 291	MAdison 7-9973
	GAYLORD	73	KQA 292	732-5141
	ALPENA	74	KQA 293	ELmwood 4-4101
	HOUGHTON LAKE	75	KQA 294	422-5101
	CADILLAC	76	KQA 260	PRospect 5-2433
	MANISTEE	77	KQA 296	PArkview 3-3535
	PETOSKEY	78	KQG 525	Diamond 7-8101
NO. 8	*MARQUETTE	81	KQA 297	CAnal 6-6511
	NEWBERRY	82	KQA 298	481
	ST. IGNACE	83	KQA 259	400
	MANISTIQUE	84	KQA 299	341-2101
	GLADSTONE	85	KQA 300	GArfield 5-2711
	IRON MOUNTAIN	86	KQA 301	774-2121
	WAKEFIELD	87	KQA 295	224-9691
	L'ANSE	88	KQA 302	524-6161
	STEPHENSON	89	KQG 526	PLymouth 3-2275
	CALUMET	90	KQG 527	742
	MUNISING	91	KQG 977	EVergreen 7-2517

NOTE: *ALSO LOCATION OF DISTRICT HEADQUARTERS.

**Any calls placed from Lansing or Detroit should use "Washington" exchange as there will be a savings in toll charges

***Temporary License

12/9/62


CANADA
LAKE SUPERIOR
WISCONSIN
LAKE MICHIGAN
LAKE HURON
INDIANA
OHIO
MICHIGAN DEPARTMENT OF CONSERVATION
COMMUNICATIONS SYSTEM
LEGEND
LANSING OFFICE
REGIONAL HEADQUARTERS
DISTRICT HEADQUARTERS
COMMUNICATIONS OFFICE
FIELD OFFICES
CENTRAL REPAIR SHOP
REPEATER STATIONS
FOREST FIRE TOWERS
MOBILE UNITS
PORTABLE RADIO STATIONS
REGIONAL BOUNDARIES
DISTRICT BOUNDARIES
LINES OF COMMUNICATION
FIRE CHANNEL 46.66 M.C.
LAW CHANNEL 46.58 M.C.
BOTH FIRE & LAW CHANNELS
REPEATER CONTROL LINK
M. O. C. D. MICH. OFFICE OF CIVIL DEFENSE
M. S. P. H. MICH. STATE POLICE HDQRS.
F. C. D. A. FED. CIVIL DEFENSE ADM.
SCALE OF MILES
LEGEND
STATE POLICE POST
C.D. SELFRIDGE FIELD CANADA

6. ROLE - EXISTING CIVIL DEFENSE

A. FINDINGS

(1) There is generally a good feeling towards Civil Defense in the fire service in southeast section of Michigan. Outstate the feeling is not quite as good.

(2) Operational municipal and volunteer fire departments generally don't know what civil defense is doing at local, county and state level.

(3) Not too many civil defense programs exist at local and county level relative to fire matters. Where they do - not many know what the fire service is doing.

(4) The fire chief does not always understand the role of civil defense and some civil defense directors do not have a clear understanding of their role. Some civil defense directors tend to think of themselves as commander rather than coordinators and this leads to strained relations with the operational branch of local government. This includes fire, police - public works, etc.

(5) When one finds civil defense directors like the city civil defense of Lansing, Michigan, Mr. Jim Holcomb, one finds a good relationship. He says; "The civil defense director must work with local authorities in planning operations for disasters. He must never forget, he is a coordinator, not a commander".

(6) A good county civil defense director can be of great benefit to a county in their day to day operations. He is a vital spark who does help the operational departments of local government improve their day to day operation.

B. CONCLUSIONS

(1) The extent of organization, planning and establishment of civil defense programs at local and county level is entirely dependent on the local or county civil defense leadership. (Some good, some poor, some non-existent)

C. RECOMMENDATIONS

(1) Local and county civil defense organizations need to develop positive communication channels with the fire service.

(2) Civil defense directors should be better screened by local and county governments and orientated to what their role is and what their relationship with the operational departments of government are. Coordination - re: card 73

(3) Efforts should be made to stress the importance of a good civil defense director for effective and economical operations of emergency services. He should not be regarded simply as a man who plans for disaster.

(4) If civil defense starts a program at national or state level and then drop it, they should let those people and organizations who are involved in the program know it has been dropped. Interested people do not like to be left hanging.

7. IDEAS

A. FINDINGS

1. People generally did not have ideas.

2. Many of the ideas or suggestions made were on very minor points.

B. CONCLUSIONS

It is quite difficult to have ideas for the improvement of a system when you do not understand the system or the problem.

C. RECOMMENDATIONS

Ideas for improvement of mutual aid and command structures should come from those areas that have experienced major disasters.

Special Note: See sections on Problems - Ideas - Recommendations

8. ESPECIALLY SUCCESSFUL MUTUAL AID AND COMMAND ARRANGEMENTS

A. FINDINGS

(1) CITY OF DETROIT

The City of Detroit, in Wayne County has upwards of the three thousand (3,000) fire fighters and one hundred fifty (150) pieces of fire fighting equipment under a single command. They protect a vast industrial complex with a population of one and one half (1.5) million people.

(2) WAYNE COUNTY

Outside Detroit proper in Wayne County, some forty five municipal and township fire departments protect an industrial area with a population of one (1) million. Eight of these departments are members of the formal Down River Mutual Aid Association. Twelve are members of a formal association known as the Western Wayne Reciprocal Aid Agreement. Four departments on the southern border of Wayne County are members of the Monroe County Mutual Aid group.

None of the mutual aid groups in Wayne County have central dispatch, running cards, or good inventory-locator systems.

(3) MACOMB COUNTY

Outside Detroit proper perhaps the best arrangement for making maximum use of the available fire fighting potential is in Macomb County which borders Detroit on the north. Here 21 fire departments protect an industrial area with a population of .4 million.

In Macomb County all municipal and township fire departments together with industrial fire brigades, conservation personnel and fire protection forces from Selfridge Field are united for a common purpose through the Macomb County Association of Fire Chiefs.

All municipal and township fire departments in Macomb County have signed a master mutual aid agreement and Selfridge Field as well as most industrial brigades participate on an informal basis. Federal government policy generally prohibits departments such as Selfridge Field from signing formal agreements and most industrial corporations have a similar policy. (See card 9 and 72.)

(4) RUNNING CARDS

A system of running cards has been worked out for second, third and fourth alarm fires. Each fire station and command car has a copy of the running card system. The system also provides for automatic mutual aid response on first alarm to certain occupancies. In addition to running cards, each station and command car has an up to date inventory of all fire equipment.

Special equipment such as aerial ladders and tankers is not included in the running card system but is called for as needed by the chief in charge.

(5) COMMUNICATIONS AND DISPATCH

All fire departments in the county operate on the fire radio frequency of 154.13 mc. The City of St. Clair is equipped with dual crystal radios and switch to a separate frequency in major emergencies. The City of Warren switches to land lines for much of their communication when the one radio frequency is busy.

The larger departments have their own base station and act as their own dispatch center as well as dispatching for the smaller departments near them.

When any chief wants mutual aid he simply calls for a second alarm response and it comes in according to the running cards.

According to association practice, a calling chief does not go to a third or fourth alarm in one step but must progressively call 2nd, 3rd, and 4th alarms.

Each base station keeps track of equipment committed on mutual aid calls according to the running cards and special calls. The association is planning a central locating system in conjunction with civil defense.

(6) TRAINING

Each month the chiefs association meets to work out problems that may have shown up on mutual aid alarms during the month. As Commissioner McCall of Warren stated, "We take off our coats, roll up our sleeves, everyone has his say, and we work the problem out". If necessary, special mutual aid practices may be called to work out procedures.

An example of how large fires result in the improvement of mutual aid plans was a quite large, grass, brush, and residentail fire (small bel-air) on April 14, 1964. Someone got excited and sent out a call on radio, "send all you got". Equipment not needed came from too far away and off duty fire fighters went directly to the fire and were lost to the home department.

As a result, command procedures were tightened up. On all mutual aid fires a command is established and marked with a flag placed on top of the command car. The post is staffed as needed and all orders must be relayed through the command post.

(7) CD COORDINATOR - PLANS

A county fire coordinator, Chief Nick Barshaff of Harrison Township, works through the command post to coordinate with C.D. and state police when necessary.

The establishment of the physical marking and utilization of the command post is the one big step that marks this association as being ahead of other mutual aid groups in the immediate area.

The Genesse County Association has a similar arrangement but this was not investigated in detail.

Most of the departments on the borders of the county have informal mutual aid with departments in other couties. Work is in progress to bring some of Oakland County departments, along the west Macomb border, into the system on a formal basis.

The Macomb County Association has received approval from the County Board of Supervisors to build a mobile communications center. They also have an area set aside for a county training ground and are planning to improve it in the near future.

9. TRAINING SYSTEMS

A. Findings

1. Macomb County has occasional mock mutual aid drills in conjunction with Selfridge Air Force Base. Monthly meetings are held by the Fire Chiefs Association to work out mutual aid problems. At these monthly meetings post-mortums are held especially for the incidents large enough to have exposed weaknesses in mutual aid arrangements.

2. Genesee County has mock mutual aid drills. These are usually in connection with the burning of an old structure obtained for that purpose. They also have an annual field day or fire school where members work together in classes and demonstrations. Mutual aid problems are discussed at monthly association meetings.

3. Mock alerts and drills are conducted at state level involving, C. D. State Police, and State Fire Marshals but these do not reach down to the operational level.

4. Mutual aid is discussed at meetings of the Southeast Fire Chiefs and the West Shore Fire Chiefs. These are both quite strong associations.

5. The University of Michigan, Firemanship Training Program at Ann Arbor conducts classes in firemanship both on campus and throughout Michigan. With the exception of the one week officers training class on campus, this instruction is devoted primarily to firemanship skills. They do not have the manpower to do extensive work off campus in mutual aid and command training.

B. Extensive command training needs to be carried out in order to utilize the full potential of the Michigan Fire Service.

C. Recommendations.

1. Additional staff and funds should be provided to the Civil Defense - Firemanship Training Program at Ann Arbor. This additional staff and funding should be exclusively for Fire Service Leadership and Command Training.

10. ADDITIONAL FACTORS

A. FINDINGS

(1) Radiological Monitoring

No attempt was made to evaluate the total amount of training, and radiological capability of Civil Defense.

The only investigation made was to evaluate the operational radiological capability of the fire service.

a. The majority of fire departments contacted indicated they had no radiological training.

b. Some departments indicated they had had some instrument training but did not have instruments.

c. The Detroit Fire Department, the Ferndale Fire Department, and the Oak Park Public Safety Department have had radiological instructions and have instruments. They would seem to have sufficient capability to take care of themselves in a nuclear incident. In these departments, the inspection bureau is given the responsibility for operational radiological monitoring. In Detroit the twenty-three (23) fire marshal's cars are equipped with instruments. In addition there are instruments and trained personnel in 55 of the fire station.

(2) Fuels

a. The major forest types for the state of Michigan have been mapped by the U. S. Forest Service. A copy of the South East section of this map is included herewith. For forest types in the remainder of the state see, Michigan Department of Conservation, supporting documents, for this report.

b. With the exception of the center of the city of Detroit the area generally is a not too closely built mixture of industrial, mixed business, urban and suburban residential, mixed forest, brush and grass fuel types. Fire generally would be self-limiting unless they occurred during a period of critical fire weather.

(3) Resources (1959 inventory)

a. The fire fighting resources are listed on the following map according to the following legend:

1. Number of paid firemen
2. Volunteer firemen
3. Auxiliary firemen
   - A. Class A pumpers over 1000 GPM
   - B. Class B pumpers over 500 less then 1000 GPM
   - C. Class C pumpers less then 500 GPM
   - L. Ladder trucks
   - T. Tank trucks

b. Resources in the remainder of the state can be found in the, Michigan State Police, Fire Fighting Equipment and Personnel, 1959 Inventory. A copy of this is included with the supporting documents for this report.

B. CONCLUSIONS

(1) In the event of a nuclear burst with ground zero in the vicinity of Hiland Park most of the radiological monitoring capability for the operational fire service, in the Detroit area, would be lost.

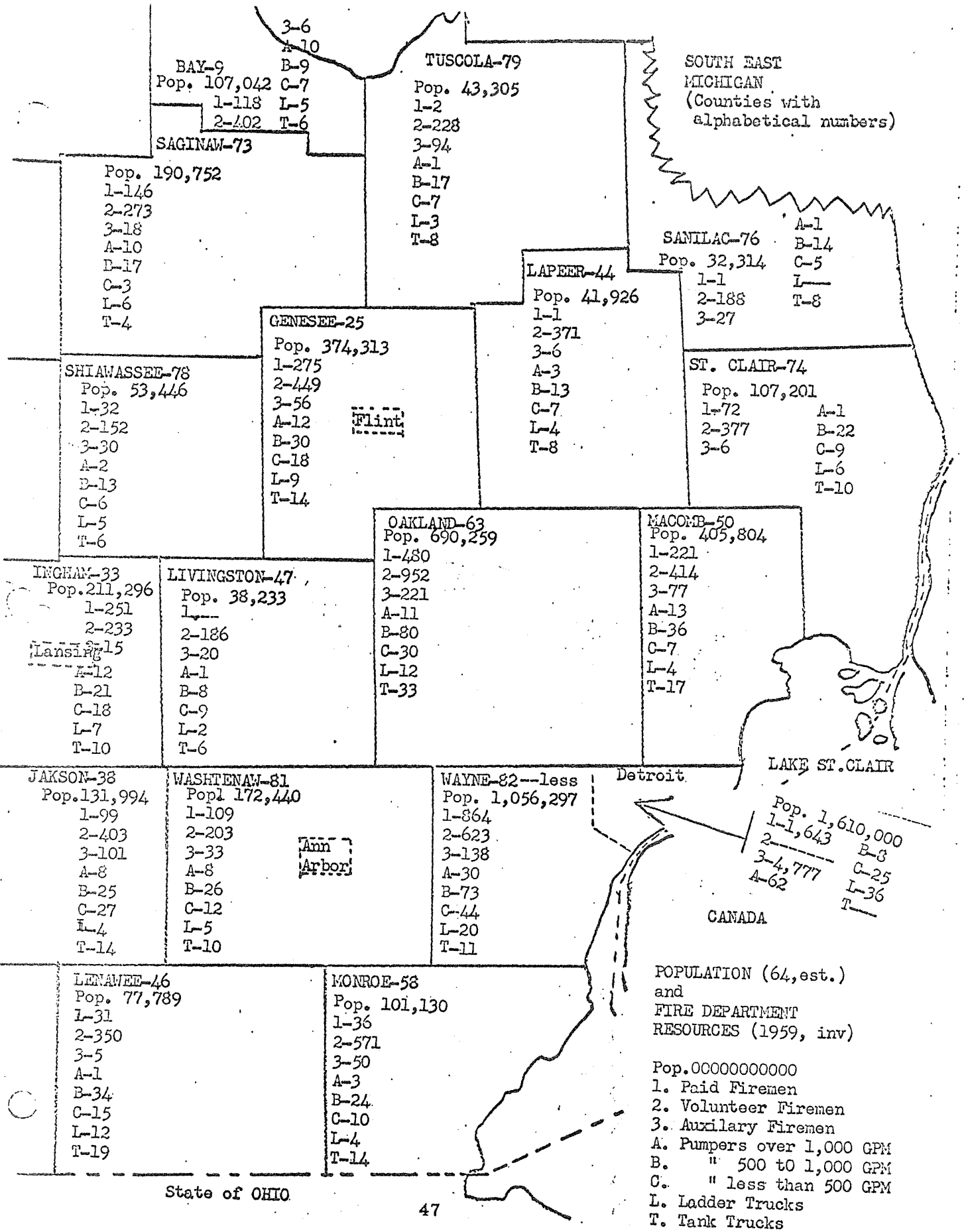
(2) The 1959 State Police inventory is somewhat outdated. Several

of the Departments around Detroit have purchased new equipment and hired additional men. Also several departments indicated that they did not now have as many auxiliary firemen as in 1959.

C. RECOMMENDATIONS

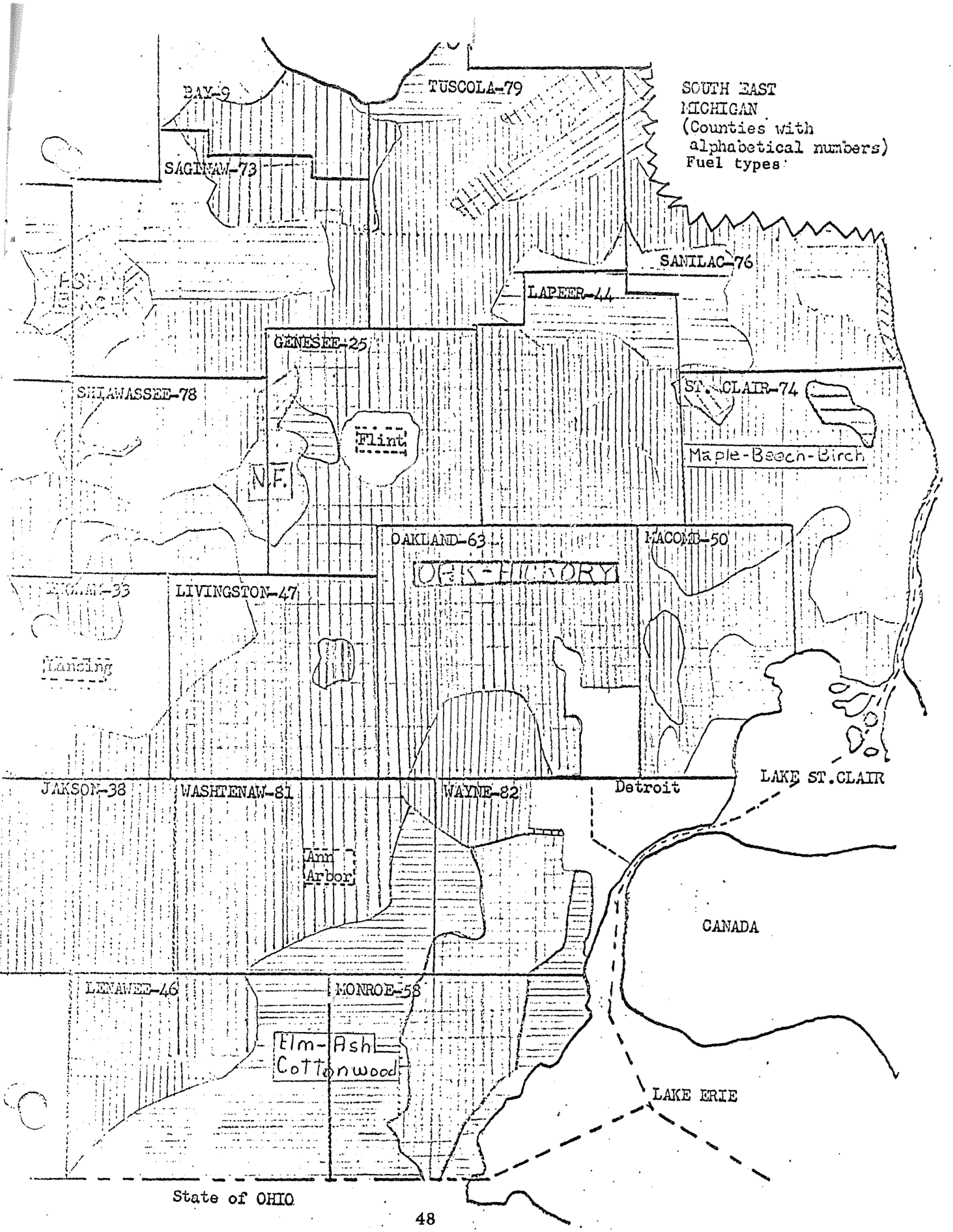
(1) Every fire department within (75) seventy-five miles of Detroit should have radiological instrments and training operators.

(2) The inventory of fire fighting resources should be brought up to date.



POPULATION (64,est.)
and
FIRE DEPARTMENT
RESOURCES (1959, inv)

Pop.00000000000
1. Paid Firemen
2. Volunteer Firemen
3. Auxilary Firemen
A. Pumpers over 1,000 GPM
B. " 500 to 1,000 GPM
C. " less than 500 GPM
L. Ladder Trucks
T. Tank Trucks


SOUTH EAST
MICHIGAN
(Counties with
alphabetical numbers)
Fuel types:
BAY-9
TUSCOLA-79
SAGINAW-73
SANILAC-76
LAPEER-44
GENESEE-25
SHIAWASSEE-78
ST. CLAIR-74
Flint
N.F.
Maple-Beech-Birch
OAKLAND-63
MACOMB-50
OAK-HICKORY
LIVINGSTON-47
Lansing
LAKE ST.CLAIR
JAKSON-38
WASHTENAW-81
WAYNE-82
Detroit
Ann Arbor
CANADA
LENAWEE-46
MONROE-58
Elm-Ash
Cottonwood
LAKE ERIE
State of OHIO

V. PROBLEMS TO BE SOLVED

A. Major Problems

1. Generally too many persons involved have a poor understanding of the purpose and function of civil defense.
2. Lacking experience in large scale disaster, fire officials generally have a poor understanding of command activities and communication needs for such emergencies. It seems they cannot apply lessons learned in other parts of the country.
3. Too few fire officials have a good understanding of the need for and purpose of planning. Some feel that advance planning is no good because it never fits the situation exactly. They do not seem to recognize that a poor plan is better than none.
4. Persons who are concerned often run head on into legal problems, people problems and money problems.
5. Lack of state level leadership.
6. How can we have a civil defense organization ready to function without any opportunities for actual experience.

B. Minor Problems

1. Poor fire service intersystem communications.
2. Some areas feel the need for more and better training at the operational level.
3. Competition or jealousy between some fire departments and some areas.

C. Problems or Complaints Connected With Civil Defense or the Present State Fire Plan.

1. "Civil defense starts a lot of projects with a "bang", we cooperate with them and then hear no more about it". "Perhaps they should start lower and work up".

2. "Many civil defense programs are not well planned or coordinated". "They marked two shelters for 100 people each right in the middle of a dangerous flammable liquid hazard".

3. Many of the Michigan fire chiefs are sceptical of the State Survival Plan which places the state police in charge of fire forces. They feel that there is danger of fire forces being committed where they are not needed or where they have no chance for successful operation. Cards 4, 7, 30, 64.

D. Summarized Ideas of People Relating to Some of Foregoing Problems

1. Harold Rienholt, Detroit Assistant Chief, Card 7

"Our command capability for large scale disasters is weak at its best. We need to revise and update the Fire Annex to our State Survival Plan. This needs to be done by a state fire authority made up of or advised by a group of operational fire personnel. Our new constitution in Michigan will provide more home rule for counties or tri-county authorities. This may improve coordination of the fire forces in a given area but we will still need better coordination from the state level. Better education and planning at the command level will be necessary if we are to have better coordination. The state educational institutions could assist in this area!"

2. Bruce Parrot, Fire Instructor, University of Michigan, Ann Arbor Card No. 72

"I am concerned about the legality of many of the operations of Michigan Fire Departments on a day to day basis, as well as mutual aid calls. A major problem for an individual fire department or even a group of departments is to figure out just what the law is. (See card No. 53)

Civil defense could help the fire service a great deal by having prepared and keeping up to date a book of laws, rules and regulations

as they relate to fire and other emergency operations.

The booklet, on a state by state basis, should:

- Give national and state laws.
- Be annotized so that laws can be easily understood.
- Contain attorney generals opinion where there are no laws or two laws seem to conflict.
- Cover large scale incidents as well as declared emergency operations.
- Cover arrangements with U.S. Forest Service, conservation department, government installations, etc.
- Cover intra-state and intra-national situations.
- Spell out responsibility, liability and command in such situations as fires, tornados, train wrecks, air crashes, freeway incidents, rescue, drowning, resusitation, scuba diving, etc.

One copy of the booklet should be furnised free of charge to every fire department in the state. It should be supplemented or reprinted when laws are changed."

3. Max McCall, Fire Commissioner, Warren, Michigan, Card No. 64

"I had a problem with my crew on the aerial ladder. They are not needed on most fires and when kept in the station, there is a chance they could save our "hide" in case of a second alarm. Yet if they do not make any runs, they will be out of practice and not able to operate efficiently when needed.

We now have a policy where they make all fires during the months of July and December. They stay in the station the other months except when the call is to an occupancy where they may be needed. Perhaps a similar policy would help civil defense personnel at the city or county level. They might be activated to carry out mock backup exercises on all second alarms during a given month."

4. W.N. Albee, Chief, Franklin Village, Card No. 53

"Civil defense has not been very active in our area. In the past it seems they have started a lot of programs and then given up. Perhaps it would be better if they started at a lower level and worked up to larger programs.

For example, I feel it would be better if we had twice as many civil defense rescue trucks that were perhaps only half as big.

We need more rescue training at the local level. I have a training officer who is always looking for new and additional training material. Perhaps civil defense could help the fire service through the training officers.

This Detroit Area Industrial Mutual Aid D.A.I.M.A. program is a good idea. It should be expanded across the state and perhaps nationally."

(See D.A.I.M.A. Manual in Documentary Support)

5. Jack Maxwell, Chief, Flint Township, Card No. 68

"Civil defense could help most by helping finance fire service training. We need more training. We need better, perhaps standardized training. We need instructors and instructor training. Regional training centers are needed.

I don't care who administers the training just so it gets done.

The fire service should work with civil defense and call them in on more large fires so we can learn to work together."

VI. RECOMMENDATIONS (Taken from body of report)

1. MUTUAL AID SYSTEMS

   a. A training and Education program from state level with the following objectives:

      1. Understanding of the requirements of mutual aid systems whether they be formal or informal.
      2. Importance of resource inventories and plans.
      3. Training to test and improve what plans are present.

   b. In consultation with operational fire chief; possibly develop a master mutual aid program with sound guidelines and procedures for cities, counties and areas to follow.

   c. The above should be stressed as plans for the declared emergency. (See last paragraph of Common Law Basis of Emergency Response.)

2. COMMAND

   a. There needs to be an education and training program with the following objectives.

      1. Appreciate and understand the need for formal central command on large scale or even small scale day to day operations.
      2. Teach the requirements of such command.

3. INTER STATE PACTS

   a. Investigate legislative changes needed so formal mutual aid can be brought about for day to day requirement as well as for the declared emergency.

   b. Investigate international arrangements which might bring about the same as above.

4. INVENTORY LOCATOR

   a. Develop uniform system for determining inventory.

   b. Determine what resources needs to be inventroied at various levels from local to state level.

c. Develop a simple uniform locator system.

5. COMMUNICATIONS SYSTEMS

a. Civil defense should instigate a study that would lead to recommendations and action to improve the fire service communications capability in the state of Michigan.

b. There must be, at the operational level, strict separation of fire department, police department, and public works radio frequencies. The Federal Communications Commission has learned this lesson and made provisions for such separation. In day to day operations, this lesson has been learned by every major city in the country. In major emergencies, a group of smaller communities needs the same communication capability that the larger cities have found is a must for day to day activities. Civil defense should not encourage or match funds on any communications system that integrates the police, fire and public works frequencies at the operational level. To do so is short sighted.

6. ROLE - EXISTING CIVIL DEFENSE

a. Local and county civil defense organizations need to develop positive communication channels with the fire service.

b. Civil defense directors should be better screened by local and county governments and orientated to what their role is and what their relationship with the operational departments of government are. Coordination - re: card 73.

c. Efforts should be made to stress the importance of a good civil defense director for effective and economical operations of emergency services. He should not be regarded simply as a man who plans for disaster.

d. If civil defense starts a program at national or state level and then drop it, they should let those people and organizations who are involved in the program know it has been dropped. Interested people do not like to be left hanging.

7. IDEAS

   a. Use ideas for improvement of mutual aid and command systems from areas that have experienced major disasters.

8. ESPECIALLY SUCCESSFUL MUTUAL AID AND COMMAND ARRANGEMENTS

   a. Find a way to transfer the mutual aid experience and know how from this area to other areas in the state. A statewide training program could work in this direction.

9. TRAINING SYSTEMS

   a. Additional staff and funds should be provided to the Civil Defense - Firemanship Training Program at Ann Arbor. This additional staff and funding should be exclusively for Fire Service Leadership and Command Training.

10. ADDITIONAL FACTORS

   a. Every fire department within (75) seventy-five miles of Detroit should have radiological instruments and training operators.

   b. The inventory of fire fighting resources should be brought up to date.

VII ANNEXES

1. Macomb County - Model Mutual Aid

2. Detroit Fire Department - Civil Defense Programs and Plans

3. State Programs - Instruction, Laws, Fire Department Liability, General Motors Disaster Policies, Miscellaneous Counties

4. State Fire Resources Inventory

5. St. Clair, Genesee, Oakland, Wayne, Monroe, Lapeer, Lenawee Mutual Aid Contract and Plans

6. Detroit Area Industrial Mutual Aid

7. State Conservation Department - Rural Fire Defense Plan

8. Interview Cards

9. Area Maps

(Being sent under separate cover)